

REMARKS/ARGUMENTS

Claims 1-4 and 6-9 are pending in this application. Claim 1 is independent.

The present invention provides an apparatus for purifying organic molecules. The apparatus includes a crucible, a baffle of glass wool in the crucible above the bottom of the crucible, and a means for heating the crucible and glass wool. When placed under a vacuum, the means for heating heats the crucible and glass wool, and a crude material in the crucible, causing the desired organic molecules in the crude material to vaporize and condense in purified form on the glass wool. The heat also causes the organic molecules that condense on the glass wool to vaporize and leave the crucible, where they deposit as a pure film on a substrate. See, e.g., specification at page 2, lines 9-23.

In conventional systems for evaporating an organic material from a crucible, the poor thermal conductivity of the organic material creates a thermal gradient in the organic material in the crucible that favors vapor deposition of organic material near the crucible walls, which considerably affects the spatial distribution of the vaporized organic material. In addition, as organic material is depleted from the crucible, the spatial distribution of the vaporized organic material becomes narrower and narrower.

In contrast, the glass wool of the present invention facilitates a more uniform distribution of heat to the organic material deposited on the glass wool, which leads to a more uniform spatial distribution in the vaporized organic material reaching a substrate. In addition, the glass wool of the present invention provides a constant surface level for the vaporizing organic material which leads to a more constant vapor distribution reaching a substrate.

Claims 1-4 and 6-9 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 3,650,823 ("Mead"). In addition, Claims 1-4 and 6-9 are rejected under 35 U.S.C. § 103(a) over JP 54-96360 ("Kikuchi") taken in view of Mead or U.S. 2001/0008121 ("Tanabe").

Claims 1-4 and 6-9 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,104,695 ("Greer") taken in view of Kikuchi, U.S. Patent No. 3,603,285 ("Nichol"), Journal of the Optical Society of America ("Howson") and/or Vapor Deposition ("Powell"). Furthermore, Claims 1-4 and 6-9 are rejected under 35 U.S.C. § 103(a) over Greer taken in view of Kikuchi, Nichol, Howson and/or Powell taken in further view of U.S. Patent No. 6,237,529 ("Spahn"). The cited prior art does not specifically disclose an apparatus for depositing

- purified films of organic molecules.

Mead at column 2, lines 27-64, discloses glass or quartz wool material 48 filled between baffles 44 and 46 in a crucible 10 to preferentially adsorb vapors leaving the top of a melt 40. Mead discloses an apparatus designed for liquids and not for sublimation processes.

Kikuchi discloses a crucible 14 including a baffle layer 7 consisting of quartz wool.

Tanabe is cited in the Office Action at page 4, lines 2-4, for disclosing refractory materials conventionally used in high temperature crucibles.

The Office Action at page 4, lines 15-17, admits that Greer does not suggest the use of glass wool as a baffle material.

According to Nichol at column 3, lines 33-34, "[i]t is unnecessary to baffle a tube 20 ... by a quartz wool plug as has been suggested in the prior art".

Howson at page 272, column 2, lines 9-10, discloses subliming through glass wool to prevent spitting.

Powell at page 271, lines 5-9, discloses loosely packing a tube with binder-free glass cloth.

Spahn at abstract discloses placing a baffle in a crucible.

However, the cited prior fails to suggest the limitation of independent Claim 1 of "a baffle comprising a glass wool ..., wherein the glass wool comprises glass fibers; and a mass of the glass fibers in each cm³ of the glass wool is uniform throughout the glass wool".

The Final Rejection asserts:

Applicant has amended claim 1 to recite that the glass wool has a uniform density throughout the wool, and argued that the prior art fails to suggest the use of glass fiber of uniform density should be used. It is noted, however, that of the cited references that suggest the use of glass wool, none suggest that wool of non-uniform density should be used, either. **One skilled in this art would have expected** that a **non-uniformly** constructed baffle would have caused a non-uniform coating to be deposited on a substrate, which was known to be a generally undesirable result in the coating art, while a **uniform** filter **would have been expected** to provide a more uniform result. Final Rejection at page 4, line 21 to page 5, line 6.

Pursuant to M.P.E.P §§ 2144.02 and 2144.03, Applicants respectfully request that the Examiner provide the technical basis for the Final Rejection's unsupported assertions that the skilled artisan would have expected that (i) glass wool of uniform density will produce a more uniform coating than (ii) glass wool of non-uniform density; and that (ii) glass wool of non-uniform density will result in a non-uniform coating.

The cited prior art's silence regarding (i) glass wool of uniform density and (ii) glass wool of non-uniform density is not a suggestion of the independent Claim 1 feature of (i) glass wool of uniform density.

Not only is the cited prior art silent about the uniformity of the density of glass wool, the cited prior art is also silent about the volume over which the density of glass wool is uniform. There is no suggestion in the cited prior art of the independent Claim 1 limitation that "a mass of the glass fibers **in each cm³** of the glass wool is uniform throughout the glass wool". In addition, there is no reasonable expectation that the skilled artisan would have been led by the cited prior art to successfully reach this limitation of independent Claim 1.

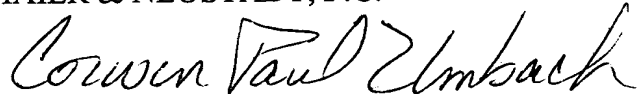
Because the cited prior art fails to suggest all the limitations of the independent Claim 1, and there is no reasonable expectation of success, the various prior art rejections should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

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